

The incumbent performs a variety of duties in a field, greenhouse, and/or laboratory environment. The incumbent may also provide work direction to lower graded employees in connection with these duties. Duties include but are not limited to the following:

A. Duties:

-working from field plot plans developed by supervisor, plows, disks, cultivates and fertilizes land to be used in the experiment; measures and stakes test plots; weighs, measures, mixes, and applies various chemicals necessary for the experiment; assists with fumigation, residue, and soil sample studies. by applying herbicides at a prescribed date and time in accordance with supervisor's instructions; collects, packs, and labels samples; collects and records test data such as crop damage and yield data; receives, marks and distributes incoming supplies and material; determines witch weed seed population in soil samples by appropriate method.

-rears and maintains insects under controlled environmental conditions; calibrates, operates and maintains laboratory and field equipment such as prisms, compasses, spray equipment, balances, microscopes, pumps, etc.; using prescribed techniques, surveys for egg masses, larvae, pupae, and adults and makes rough damage or defoliation estimates; observes, measures, and records the size, developmental rate, vigor, health, and viability of test insects as affected by exposure to experimental treatments; following detailed instructions, sets up, conducts and executes simple laboratory field experiments; keeps routine records of experiments, tabulates results, prepares graphs and charts, and summarizes data.

-prepares and examines nematode specimens. This includes operating a water flotation cyst extractor to prepare samples for microscopic examination; using a microscope, prepares samples for scientific study by extracting cysts from a prepared sample; maintains a record of the examination by recording specific numerical data; prepares and affixes labels to maintain cyst identity.

-assists the professional staff in the completion of investigations and developments of commodity treatment schedules. Carries out step-by-step operations which include making measurements, observations records, tests, or experiments that are assigned and prepares reports for use of supervisor. Collects, determines survival, and records data of insects, snails, or other pests following treatment; prepares plant material for treatment; maintains colonies of insects or other pests for experimental purposes; makes determinations of fumigant concentration by electrically operated or other apparatus; prepares, operates, and cares for fumigation, rearing, or other equipment; prepares reports for use of supervisor; drives vehicles to pick up and deliver specimens.

## B. Factors:

### 1. Knowledge Required by the Position:

- knowledge of broad area of biological or agricultural work.
- knowledge of technical terminology used in area assigned.
- knowledge of laboratory tests or field procedures performed.
- skill to calibrate and operate more advanced laboratory or field equipment such as microscopes, analytical balances, tractors, plows, disks, etc.
- knowledge of scientific measurement taking and record keeping.

### 2. Supervisory Controls:

Supervisor provides detailed and specific instructions on work to be performed, methods and procedures to use, observations to make, and data to collect.

Incumbent independently performs day-to-day activities. New or unusual problems are referred to supervisor for assistance. Work is periodically spot checked for completeness, accuracy, and compliance with instructions while being conducted and upon completion. New or unusual assignments are checked more often.

### 3. Guidelines:

Specific guidelines are available for almost all procedures. These include standard procedures, field and laboratory manuals, and common practices. Necessary deviations from instructions are referred to supervisor. Incumbent does not make improvements on methods and procedures prior to securing clearance from supervisor.

### 4. Complexity:

The incumbent is required to perform a number of tasks many of which are related and involve fairly simple operations. The work processes are basically predetermined and follow an established routine. This is particularly true regarding the rearing of insects and preparing plots for tests.

Activities do not require a great deal of organization and planning, but do require the incumbent to determine the order and timing of tasks in order to carry out the work in an efficient and expeditious manner. When unusual circumstances occur, such as in the case of unusual behavior of the insects or in the case of unexpected growth of crops, they are immediately called to the attention of the supervisor. Activities are such that they can quickly be memorized.

Since activities are predetermined and fairly well defined, there is little need to deviate from established procedures.

5. Scope and Effect:

The purpose of the work is to assist higher graded employees in the conduct of various biological or agricultural studies by rearing insects or growing crops under controlled conditions, making pertinent observations, and required data.

This work permits higher graded employees to conduct experiments which are designed to discover new ways of controlling and/or eradicating undesirable insects and crops.

6. Personal Contacts:

Contacts are with coworkers and related agency employees.

7. Purpose of Contacts:

To obtain, clarify, and/or provide information on activities being conducted.

8. Physical Demands:

The work may require moderately heavy lifting. It requires walking on slippery and uneven surfaces, standing, bending, and crouching. In addition, above average agility and dexterity may be required.

9. Work Environment:

Moderate risks or discomforts are encountered. The incumbent must work with laboratory glassware and various moving machines such as farm machinery. Employee may be required to wear protective clothing.